

IN THE SPECIFICATION:

Change the title to --Color Video Camera For Film Origination With Two Color
Filter--

Page 1, amend the first paragraph as follows:

This is a continuation-in-part of U.S. Patent Application Serial No. 09/653,963 Filed September 1, 2000 (which claims priority from U.S. Provisional Patent Application No. 60/151,965, filed September 1, 1999 and from U.S. Provisional Patent Application No. 60/171,361, filed December 22, 1999). The present Application also claims priority from the following three U.S. Provisional Patent Applications, which are incorporated herein by reference: U.S. Provisional Patent Application No. 60/232,945, filed September 15, 2000; U.S. Provisional Patent Application No. 60,232,947, filed September 15, 2000; U.S. Provisional Patent Application No. 60/314,209, filed August 22, 2001.

Page 6, amend the first paragraph (which continues onto page 7) as follows:

Figure 1 shows a camera system in accordance with an embodiment in the parent application hereof. Light received from a scene 5 being viewed (typically, a moving scene) is received and focused by a motion picture film camera type of lens, represented in the Figure by lens 110, which is typically a multi-element lens or lens system. [As used herein, the term "lens system" is intended to generically cover a lens of one or more elements as well as a system of lenses. The term "lens" is sometimes used as convenient shorthand for a lens system.] Light focused by the lens is divided,

in a manner described further hereinbelow, by a pellicle beamsplitter 115, for incidence on sensors 120 and 130 which may be, for example, suitable CCD sensors. In this embodiment, the sensor 120 is a luminance (Y) sensor, and the sensor 130 is provided with a color pattern filter 132 and serves as a color sensor. (The image on the color sensor is reversed, and can be electronically reversed back on readout). Each sensor is coupled with suitable processing circuitry (labeled 125 in the luminance channel and labeled 135 in the color channel), including color detect and matrix circuitry 190 in the color channel, and suitable filtering in both channels. The signals can be combined and matrixed, as represented by the block 140 to obtain, for example, R, G, B, and/or color difference signals and luminance. Reference can be made, for example, to copending U.S. Patent Application Serial No. 09/152,395 and copending U.S. Patent Application Serial No. 09/362,603, both assigned to the same assignee as the present invention, and both disclosing aspects of two channel processing. It will be understood that a number of features of the invention do not depend on a particular processing approach.

Page 9, amend the first full paragraph as follows:

In a further embodiment of the Figure 2 color filter, the checkerboard passes red and green; i.e., for example, the boxes 210 being red and the boxes 220 being green. This embodiment has the advantage of having blue (rather than green) be the derived color, since the derived color will have the lowest signal-to-noise ratio, and this can be best tolerated in the blue.

Page 10, amend the first full paragraph as follows:

Because of the reduced diagonal resolution that results from the color patterns, it is desirable to use an optical pre-filter to avoid a color ~~moire~~ moiré pattern being visible when there is detail on the diagonal. One form of an optical prefilter, represented at 134 in Figure 1, is a phase diffraction grating. In conjunction with the diagonal color filter pattern, an arrangement of two gratings oriented with grating lines at 45 degrees (that is, diagonally oriented) with respect to the sensor. The gratings can be pressed replica gratings after the optimum grating spacing and amplitude have been determined. A phase grating with adjustable amplitude can be produce using the patterned alignment process described in U.S. Patent 5,638,201. Alternatively, adjustable phase grating can be produced in a glass plate using Bragg diffraction of an ultrasonically driven plate. The ultrasound frequency and amplitude will determine the grating spacing and amplitude.

Page 12, amend the second full paragraph (bridging pages 12 and 13) as follows:

For frame rates between 60 FPS and 120 FPS, the frame is clocked out in 1/120 of a second at 1920 x 540-line resolution. In order to use the same output clock frequency, two lines are "binned" into the horizontal register before being shifted out. For binning in the normal way, the stripe pattern of the color CCD would have to be vertical stripe filters that alternate between red and green. A preferred filter, as in Appendix 1, uses a checkerboard pattern of red and green. In order to bin the same

color out, and in accordance with a feature hereof, the binning is done diagonally. In normal binning, two vertical shifts are used before the horizontal register is clocked out.

For diagonal binning, one vertical shift is followed by one horizontal shift followed by another vertical shift before the horizontal register is clocked out. This is disclosed in the above referenced U.S. Provisional Application that was filed on August 22, 2002 2001.